

GenCore version 5.1.3
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OM nucleic - nucleic search, using sw model

Run on: February 16, 2003, 16:42:40 : Search time 2267.72 Seconds
(without alignments)
15566.316 Million cell updates/sec

Title: US-09-497-967-5
Perfect score: 1404
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Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 24791104 segs, 12571243825 residues 49582208
Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
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Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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7	138	9.8	138	18	US-09-497-967-74
8	123	8.8	123	18	US-09-497-967-75
9	105	7.5	117	18	US-09-497-967-70
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Thu Feb 20 11:10:42 2003

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ALIGNMENTS

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RESULT 1
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; Sequence 5, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; TITLE OF INVENTION: ICHTHYOPHTHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; CURRENT FILING DATE: 2000-02-04
; PRIOR FILING DATE: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: Patentin Ver. 2.1
; SEQ ID NO 5
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; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: 55kd i-antigen coding region
US-09-497-967-5
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; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; PRIOR FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
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; LENGTH: 1410
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: 55kd I-antigen coding region
US-09-497-967-102

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Db 1201 TCTGAGTGTGTGAAGTGTGCTGCTAACTTCTACACCAACGAGCTGGGTGGCT 1260
QY 1261 GGAATCGACACCTGTACCTTCTTGTACAGAGAGCTGAGCTCTGGAGCTGAGGCTAACCTG 1320
Db 1261 GGAATCGACACCTGTACCTTCTTGTACAGAGAGCTGAGCTCTGGAGCTGAGGCTAACCTG 1320
QY 1321 CTTGAGTCTGTAAAGAAACATCCAGTGTGACTTTCGCTTAACTTCTCTCTATCTCTCTG 1380
Db 1321 CTTGAGTCTGTAAAGAAACATCCAGTGTGACTTTCGCTTAACTTCTCTCTATCTCTCTG 1380
QY 1381 CTGCTGATCTCTTACTTACTTCTGCTG 1404
Db 1381 CTGCTGATCTCTTACTTACTTCTGCTG 1404


```

: PRIOR FILING DATE: 1999-04-27
: PRIOR APPLICATION NUMBER: 60/118,634
: PRIOR FILING DATE: 1999-02-04
: PRIOR APPLICATION NUMBER: 60/122,372
: PRIOR FILING DATE: 1999-03-02
: PRIOR APPLICATION NUMBER: 60/124,905
: PRIOR FILING DATE: 1999-03-17
: NUMBER OF SEQ ID NOS: 102
: SOFTWARE: Patent Ver. 2.1

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; SEQ ID NO 3
; LENGTH: 1404

```

TYPE: DNA

ORGANISM: *Ichthyophthirius multifiliis*
US-09-497-967-3

Query Match 55.7%; Score 782.6; DB 18; Length 1404;
Best Local Similarity 72.5%; Pred. No. 9.6e-210;
Matches 1013; Conservative 0; Mismatches 384; Indels 0; Gaps 0;

Qy	1	ATGAGAACAA	CATCTCGTGGT	GATCCTGCTCAT	CTCTCTGTT	CATCAACGAGAT	CAAGTCT	60
Db	1	ATGAAAAATA	TATTTTAGTAA	TATGATTAT	TTCATTAT	TATGCAAT	TAAATTAATCT	60
Qy	61	GCTAACTGTC	TGTGGGACG	AGACCAAC	CGCTGGCAG	GGTGGAGCAG	CTGGGAACC	120
Db	61	GCTAATGTG	CTGTGGAACT	GAACTTAAC	ACAGCGGAT	AAGTGTGAT	GATCTAGGACT	120
Qy	121	CTTGCTTA	CTGTGAAC	TGTCAGAG	CACTTCTACT	ACACAGCGT	GTGCTTCGTG	180
Db	121	CTGCAATGT	GTTTAATGTT	TGAGAAA	CTTTTATTA	TATATGCT	GTGCTTCGTT	180
Qy	181	CTGGAGCTT	CTACCTGTAC	CCCTTGCTC	AGAGAGGAG	CGCTGGAGCT	CAGCCTAAC	240
Db	181	CTGGTGCT	ACTACGTF	ACACCTTGC	CAATAAAAAA	AGATGCTGTG	CTTAACCAAT	240
Qy	241	CCTCTGCT	ACCGTAAC	CTGGTGAC	CCAGTGTAA	CGTGAAGT	GTCTGCTGGAA	300
Db	241	CCACCTGT	CTACTGCTA	ATTTAGTC	ACATATGCTA	ACGTTAAAT	CGCCTGCTAC	300
Qy	301	ATCGCTG	GAGGAGCT	ACCGACTAC	CGTGTATCAT	CACCGAGT	GTGTAAC	360
Db	301	ATTGCA	GTTGGAGC	ACACAGAT	TATGCA	GCAATTAAT	CACAGAA	360
Qy	361	AACTTCT	ACAAAG	AGACGCTC	CTAATTTCA	ACGCTGGAGCT	TCTACCTC	420
Db	361	AATTTT	TATATGA	AAATGCTC	CAATTTTAT	GCAAGT	GCTAGTAC	420
Qy	421	CGTGTGA	ACCGCTGG	GAGGAGCT	CTGACCCG	TGGAAACG	TGCTACCAT	480
Db	421	CCGGTA	AACACAG	ATGTTG	TGTCAT	TGCTGTGTA	TGCGCTACCAT	480
Qy	481	TGTAAC	GTTGCTCT	CACCGAAC	CCGCTCTGG	ACGAGGAGT	GACCA	540
Db	481	TGTAAC	GTTGCGAT	CTCTACT	GCTGAT	GAGTGA	CTACTGAT	540
Qy	541	CGCTCTT	CACGAGT	GTGTGA	AGTGTCC	CTGAAC	TCTACTACA	600
Db	541	AGATCAT	TTCACAA	TGCTGTTAA	TGTAGACTT	TAACTTTT	TACTATAT	600
Qy	601	AACACCC	CTTTCA	ACCCTGGA	AGCTCTCAG	TGTACCC	CTTGTCTCT	660
Db	601	AATACT	CCTTTCA	ATCCAGT	AAAAGTTA	ATGCA	CACTTTG	660
Qy	661	AACGTG	CTCAGG	CTACCC	TGGGAA	ACGACGCT	ACCATAC	720
Db	661	AATGTT	CTTTA	AGCTACTT	TAGTAT	ATGCTACA	ATATAC	720
Qy	721	TGTCCT	CACGGA	ACCAAT	CTCTGCT	GGAGTGA	CAACTGG	780
Db	721	TGCCCT	GATG	GTACTATA	AGTCTCT	GAGTA	TAATTTGG	780
Qy	781	TGTACCA	CACTGT	CTTCA	CTTAAC	TCTAC	ACACAG	840

RESULT 5

```

RESUL 3
US-09-498-612-8
; Sequence 8, Application US/09498612
; GENERAL INFORMATION:
; APPLICANT: GAERTIG, Jacek
; APPLICANT: DICKERSON Jr., Harry W.
; APPLICANT: CLARK, Theodore G.
; APPLICANT: THE UNIVERSITY OF GEORGIA RESEARCH FOUNDATION, INC
; TITLE OF INVENTION: RECOMBINANT EXPRESSION OF HETEROLOGOUS NUCLEIC ACIDS IN
; TITLE OF INVENTION: PROTOZOA
; FILE REFERENCE: 235,00100101
; CURRENT APPLICATION NUMBER: US/09/498,612
; CURRENT FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/7118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: PCT/US00/02966
; PRIOR FILING DATE: 2000-02-04
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 8
; LENGTH: 1404
; TYPE: DNA
; ORGANISM: Ichthyophthirius multifiliis
US-09-498-612-8

```

[illegible]

```

RESULT 6
; Sequence 44, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; ICHTHYOPHITHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; CURRENT FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 44
; LENGTH: 1410
; TYPE: DNA
; ORGANISM: Ichthyophthirius multifiliis
US-09-497-967-44

```

Query Match	55.7%	Score	782.6	DB 18:	Length	1410:
Best Local Similarity	72.5%	Pred. No.	9.6e-210:			
Indels	0:	Gaps	0:			

Qy	1	ATGAAGAACACATCTGGTGATCTGATCATCTCTGTTTCATCAACAGATCAAGTCT	60
Db	1	ATGAAAAAATAATTTAGTAAATATGATTTATTTTATTTTATCAATTAATTAATCT	60
Qy	61	GCTAACTGTCCTGGGAACCCAGACCAACACCGCTGGACAGGTGGACGACCTGGGAACC	120
Db	61	GCTAATGTGCTGTGGAACTGAACTTAACACGCCGATTAAGTTGATGATCTAGGAAT	120
Qy	121	CGTCCCTAACTGCTGAACCTGTCAGAGAAGCTTTCTACTACAACACGCTGCTGCTTCGGTG	180
Db	121	CGTGCAATTTGCTTTAATTTGTTAGAAAACCTTTTATTATTAATAGCTGCTGCTTCGGTT	180

Query Match	55.7%	Score 782.6;	DB 18;	Length 1404;
Best Local Similarity	72.5%;	Pred. No. 9,6e-210;		
Matches 1013;	Conservative 0;	Mismatches 384;	Indels 0;	Gaps 0;
1	ATGAAGAACAACATCCTCGTGGATGCTCGATCATCTCTCTGTTTCATCACACCGAGATCAAGTCT	60		
1	ATGAAAAATAATATTTTAGTAATATTTGATATTTTATTATTTATTTATTAATTAATTAATTAATCT	60		
61	GCTAACTGTCCTGGGACCGGAGACCAACACCGCTGGACAGGTGGACGACCTGGGAACC	120		
61	GCTAATGTGCTTGGGAACCTGAACCTAACACGCGGATAGTTGATGATCTAGGAAC	120		
121	CCTGCTAACTGTGTGAACGTGTGAGAAGACTCTACTACAACAGCGTGTCTTTCGTG	180		
121	CCTGCAAAATGTTTAATGTGTAGAAAAACTTTTATATTAATTAATGCTGTGCTTTCGT	180		
181	CCTGGAGCTTCTACCTGTACCCCTTGTCCTGACAAGAAGCGCTGGAGCTCAGCCTTAAC	240		
181	CCTGGGTGCTAGTACGTGTACACTTGTCATAAANAAGATGCTGGTCTTAACCAAA	240		
241	CCTCCTGCTACCGCTAACTCGGTGACCCAGTGAAGTGAAGTGTCTGCTGGAACCGCT	300		
241	CCACCTGCTACTGCTAAATTTASTCACATAATGTAAAGTTAAATGCCCCTGCTGGTAGCGCA	300		
301	ATCGCTGGAGGAGCTACCGACTAGCTGCTATCATCACCGAGTGTGAACTGTGCGATC	360		
301	ATTGCGAGTGGACCAACAGATTATGCAGCAATTAATCACAGAAATGTTAAATGTAGAATT	360		
361	AACCTTCTACAAGAGAGCGTCTTAACCTTAACGCTGGAGCTTCTACCTGTACCGCTGT	420		
361	AAATTTTATTAATGAAATGCTCCAAATTTTAATGCAAGTGTAGTACATGCACACTTGT	420		
421	CCTGTGAACCGCTGGGAGGAGCTCTGACCGCTGGAAACGCTGCTACCATCTGTGGCTAG	480		
421	CCGTTAAACAGAGTTGGTGGTGCAATTGACTGCTGGTAATGCGCTACCATAGTCGCATAA	480		
481	TGTAACGTGGCTTGTGCTTACCGGAACCGCTCTGGACAGCGGAGTGAACACGACTACGTG	540		
481	TGTAACGTGCGATGTGCTTACTGCTACTGCATCTGATGATGGATTAAGTACTGATTTGTT	540		
541	CGCTTTTACCCAGTGTGTGAAGTGTGCGCTGAACCTTCTACTACACGGAACACACGA	600		
541	AGATCATTCACAGATGTGTTAAATGTAGACTTAACCTTTTACTATAATGGTAATAATGGT	600		
601	AACACCCCTTTCAACCCCTGGAAAGTCTCAGTGTACCCCTTGTCTCTATCAAGCTGCT	660		
601	AATACTGCTTTCATCCAGTAAAAAGTTAATGCAACACTTGTCCGGCAATTAACACTGCT	660		
661	AACGTGCTCAGGCTACCCCTGGGAACACGCTACCATCACCGCTCAGTGTAACTGGCT	720		
661	AATGTGTCTTAAGCTACTTTAGTAAATGCTACAATAACCCGCAATAATGAACGTTGCA	720		
721	TGTCTGACGGAACCAATCTCTGCTGTGGAGTGAACACTGGGTGGCTCAGAACCCGAG	780		
721	TGCCCCGTATGTACTATAAGTGTCTGTGAGTAAATTAATGGGTGAGCAAAAACACTGAA	780		
781	TGTACCAACTGTGCTCTACTTCTTACAACAACACGCTCCTAACTTCAACCCCTGGAAC	840		
781	TGTACTAAATGTGCTCTACTTTTACATAATAATGCTCTAATATTTCAATCCAGTAAT	840		
841	TCTACCTGTGCTGCTGTCTGTCTTACAAGGACTACGAGCTAGGCTACCGCTGGAGCA	900		
841	AGTACATGCCCTACCTTCCACAGAAAATAAGATTAATGTGCTGAAGCCACTGCAGGTGT	900		
901	GCTGCTACCCCTGGCTAAGCAGTGTAAACATCGCTTGTCTCTGACGGAACCGCTATCGTCT	960		
901	GCCGTACTTTAGCCAAATAATGTAAATTTGCAATGCCCTGATGCTGCAATTTGCTAGT	960		
961	GGAGCTACCAACTACGTGATCCTGCAACCGAGTGTCTGCACTGCTGCTTAACCTTCTAC	1020		
961	GGAGCAACTAATATGTAAATTAATAACAGAAATGCTAAATTTGCTGCTGCTTCTTTAT	1020		

```
QY 181 CTTGGAGCTTCTACCTGTACCCCTTCTCCTCAGAGAAGGACGCTGAGCTCAGCCTAAC 240
Db 181 CTTGGTGTCTAGTAGCTGTACACCTTGTCCATAAAAAAAGATGCTGGTCTTAACCAAT 240
QY 241 CTTCTCTGCTACCGCTACCTGTTGACCGAGTGAACGTTGAAGTGTCTCTGCTGGAACCGCT 300
Db 241 CCACCTGCTGCTACTGAATTTAGTACATTAATGTAACGTTAAATGCCCTGCTGTTACCGCA 300
QY 301 ATGCTGGAGGAGCTACCGACTACGCTGTATCATCACCGAGTGTGGAACCTGTCGATC 360
Db 301 ATTGCAGGTGGACACAGATTTATCGACAATAATCACGAATGTGTTAATGTAGAATT 360
QY 361 AACTTCTACAGCAGAGCTCCTAACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGT 420
Db 361 AATTTTATATGAATAATGCTCCAAATTTTAAATGCAAGTGTACTACATGCACAGCTTGT 420
QY 421 CTTGTGAACCGGTGGAGGAGCTGTGACCGCTGGAACGCTGTACATCGTGGTCTCAG 480
Db 421 CCGGTAAACAGAGTTGGTGGTGCAATTGACTGCTGTTAATGCCGCTACCATAGTCGCATAA 480
QY 481 TGTAACTGCTGCTCTACCGGACCGCTCTGACCGAGGAGTGTGCTACATCGTGGTCTCAG 540
Db 481 TGTAACTGCTGCTCTACCGGACCGCTCTGACCGAGGAGTGTGCTACATCGTGGTCTCAG 540
QY 541 CCGCTCTTCAACCGGAGTGTGAGTGTGCGCTGAACCTTCTACTACAAACGGAACACGGA 600
Db 541 AGATCATTTACAGAAATGTTTAAATGTAGACTTAACCTTTACTATATATGTTAATATGTT 600
QY 601 AACACCCCTTTCAACCGCTGGAAGTCTCAGTGTACCCCTTGTCTGCTATCAAGCTGCT 660
Db 601 AATACTCTTCAATCCAGGTAAAGTTAATGACACACCTTGTCCGGCAATTTAAACCTGCT 660
QY 661 AAGTGGCTGAGGCTACCGCTGGGAAACGAGCTACCATCACCGCTCAGTGTAACTGGCT 720
Db 661 AATGTTGCTTAAGCTACTTTAGTAAATGATGCTACATAACCGCAATATGTAACGTTGCA 720
QY 721 TGTCTGACGGAACCATCTGCTGCTGGAGTGNACAACTGGTGGCTCAGAACACCGAG 780
Db 721 TGCCCTGATGCTACTTAAGTGTGCTGGAGTAAATAATTTGGTAGCACAAACACTGAA 780
QY 781 TGTACCACTGTGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 840
Db 781 TGTACTAATTTGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 840
QY 841 TCTACCTGTCTGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 900
Db 841 AGTACATGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 900
QY 901 GCTGCTACCTCTGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 960
Db 901 GCCGCTACTTTAGCCAAATATGTAATATTTGATGCTGCTGATGCTGCTGCTGCTGCTGCT 960
QY 961 GGAGCTACCAACTACGCTGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 1020
Db 961 GGAGCAACTAATTTATGTAATATTAACAGAAATGCTAATTTGCTGCTCTCTCTCTCTCTCT 1020
QY 1021 TTGACGCAACAACTTCCAGGCTGATCTTCTGCTGTGAAGCTGTGCTCTCTCTCTCTCTCTCT 1080
Db 1021 TTTGATGGTAAATTTCTAGGCAAGAGTAGTAGTGAAGAGCATGTCCAGCAATAATAA 1080
QY 1081 GTCAGGAGCTGTGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 1140
Db 1081 GTTTAAGCGCTCTAGCAACTGCAGTGTACTGCTACTGCTAATTTAATGCAATATGTGCCCTT 1140
QY 1141 GAGTGTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 1200
Db 1141 GAATGCCCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 1200
QY 1201 TCTGAGTGTGAGTGTGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT 1260
Db 1201 TCTGATGTGTTAATGCTCTGCCAACTTTTATCTACTACAAATAAATAACTGATTTGGGTAGCA 1260
QY 1261 GGAATCGACACCTGTACCTCTTTGTAAAGAAGCTGACCTCTCTGGAGCTGAGCTTAACCTG 1320
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Db 1261 GGTATTGATACATGACTAGTTGTAATAAAAAAATAACTTCTGGGCTGAAGCTAATTTA 1320
QY 1321 CTTGAGCTCTGCTAAGAAGAACATCCAGTGTGACCTTGGTAACTTCCCTGTCTCTCTCTG 1380
Db 1321 CTTGATCTGCTAATAAAAAAATAATAATGTGATTTTCGCTAATTTTTTATCAATTTCCCTTA 1380
QY 1381 CTGCTGATCTCTTACTA 1397
Db 1381 TTATTGATTCTCTATTA 1397
```

RESULT 7

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US-09-497-967-74
; Sequence 74, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; CURRENT FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 74
; LENGTH: 138
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:
; OTHER INFORMATION: oligonucleotide primers
US-09-497-967-74
```

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Query Match          9.8%;   Score 138;   DB 18;   Length 138;
Best Local Similarity 100.0%;   Pred. No. 5.3e-28;
Matches 138;   Conservative 0;   Mismatches 0;   Indels 0;   Gaps 0;
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QY 313 GCTACCGACTACGCTGCTATCATCACCGAGTGTGTAACCTGTCGCACTGCGCATCAACTTCTACAAAC 372
Db 1 GCTACCGACTACGCTGCTATCATCACCGAGTGTGTAACCTGTCGCACTGCGCATCAACTTCTACAAAC 60
QY 373 GAGAACCTCTCACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGTCTCTGTGAACCGC 432
Db 61 GAGAACCTCTCACTTCAACGCTGGAGCTTCTACCTGTACCGCTTGTCTCTGTGAACCGC 120
QY 433 GTGGAGGAGCTCTGACC 450
Db 121 GTGGAGGAGCTCTGACC 138
```

RESULT 8

```
US-09-497-967-75/c
; Sequence 75, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; CURRENT FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
```


Thu Feb 20 11:10:42 2003

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; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 75
; LENGTH: 123
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:
; OTHER INFORMATION: oligonucleotide primers
US-09-497-967-75

Query Match      8.8%; Score 123; DB 18; Length 123;
Best Local Similarity 100.0%; Pred. No. 8.7e-24;
Matches 123; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 430 CCGCTGGAGGAGCTCTGACCGCTGGAACGCTGCTACCATCTGCTGCTAGTGTAAAGTG 489
Db 123 CCGCTGGAGGAGCTCTGACCGCTGGAACGCTGCTACCATCTGCTGCTAGTGTAAAGTG 64

QY 490 GCTTGTCTTACCGGACCGCTCTGGACGAGGTGACCGAGTACGCTGCTCTTTC 549
Db 63 GCTTGTCTTACCGGACCGCTCTGGACGAGGTGACCGAGTACGCTGCTCTTTC 4

QY 550 ACC 552
Db 3 ACC 1

RESULT 9
US-09-497-967-70
; Sequence 70, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; TITLE OF INVENTION: ICHTHYOPHTHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; PRIOR FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 70
; LENGTH: 117
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:
; OTHER INFORMATION: oligonucleotide primers
US-09-497-967-70

Query Match      7.5%; Score 105; DB 18; Length 117;
Best Local Similarity 100.0%; Pred. No. 1e-18;
Matches 105; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 ATGAAGAACACATCCCTGGTGATCATCTCTCTGTTCATCAACAGATCAAGTCT 60
Db 13 ATGAAGAACACATCCCTGGTGATCATCTCTCTGTTCATCAACAGATCAAGTCT 72

```

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QY 61 GCTAACTGCTCTGTGGAGACCGAGACCAACACACCGCTGGACAGTG 105
Db 73 GCTAACTGCTCTGTGGAGACCGAGACCAACACACCGCTGGACAGTG 117

RESULT 10
US-09-497-967-71/c
; Sequence 71, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; TITLE OF INVENTION: ICHTHYOPHTHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; PRIOR FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 71
; LENGTH: 104
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:
; OTHER INFORMATION: oligonucleotide primers
US-09-497-967-71

Query Match      7.4%; Score 104; DB 18; Length 104;
Best Local Similarity 100.0%; Pred. No. 1.9e-18;
Matches 104; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 84 GACCAACACCGCTGGACAGGTGGACGACCTGGAAACCCCTCTTAACCTGTGTGAACCTGCA 143
Db 104 GACCAACACCGCTGGACAGGTGGACGACCTGGAAACCCCTCTTAACCTGTGTGAACCTGCA 45

QY 144 GAAGAACTTCTACTACACACGCTGCTGCTTCGCTGGAG 187
Db 44 GAAGAACTTCTACTACACACGCTGCTGCTTCGCTGGAG 1

RESULT 11
US-09-497-967-72
; Sequence 72, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; TITLE OF INVENTION: ICHTHYOPHTHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; PRIOR FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 72

```



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; LENGTH: 100
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:
; OTHER INFORMATION: oligonucleotide primers
US-09-497-967-72
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Query Match
Best Local Similarity 7.1%; Score 100; DB 18; Length 100;
Matches 100; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 165 CGCTGCTGCTTTGCTGCTGGAGCTCTACCTGTACCCCTGTCTCAGAGAAGGAGCG 224
Db 1 CGCTGCTGCTTTGCTGCTGGAGCTCTACCTGTACCCCTGTCTCAGAGAAGGAGCG 60

QY 225 TGGAGCTCAGCCTAACCCCTCTGCTACCGCTAACCTGGTG 264
Db 61 TGGAGCTCAGCCTAACCCCTCTGCTACCGCTAACCTGGTG 100
```

```
RESULT 12
US-09-497-967-79/c
; Sequence 79, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; TITLE OF INVENTION: ICHTHYOPHTHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497.967
; PRIOR FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 79
; LENGTH: 100
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:
; OTHER INFORMATION: oligonucleotide primers
US-09-497-967-79
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Query Match
Best Local Similarity 7.1%; Score 100; DB 18; Length 100;
Matches 100; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 753 GAACAACCTGGTGCTCAGAACCCGAGTGATACCACTGTGCTCCTAACTTCTACAACA 812
Db 100 GAACAACCTGGTGCTCAGAACCCGAGTGATACCACTGTGCTCCTAACTTCTACAACA 41

QY 813 CAACGCTCCTAACTTCAACCCCTGGAACCTACTCTGCTG 852
Db 40 CAACGCTCCTAACTTCAACCCCTGGAACCTACTCTGCTG 1
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RESULT 13
US-09-497-967-76
; Sequence 76, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
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; TITLE OF INVENTION: ICHTHYOPHTHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; PRIOR FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 76
; LENGTH: 99
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:
; OTHER INFORMATION: oligonucleotide primers
US-09-497-967-76
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Query Match
Best Local Similarity 7.1%; Score 99; DB 18; Length 99;
Matches 99; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 532 GACTACGTGCGCTCTTTCCACCGAGTGTGTAAGTGTGCGCTGAAGTCTTACTACAACGGA 591
Db 1 GACTACGTGCGCTCTTTCCACCGAGTGTGTAAGTGTGCGCTGAAGTCTTACTACAACGGA 60

QY 592 AACACGGAAACACCCCTTTCAACCCCTGGAAGTCTCAG 630
Db 61 AACACGGAAACACCCCTTTCAACCCCTGGAAGTCTCAG 99
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RESULT 14
US-09-497-967-73/c
; Sequence 73, Application US/09497967
; GENERAL INFORMATION:
; APPLICANT: Clark, Theodore G.
; APPLICANT: Dickerson, Jr., Harry W.
; APPLICANT: Lin, Tian-Long
; TITLE OF INVENTION: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF
; TITLE OF INVENTION: ICHTHYOPHTHIRIUS
; FILE REFERENCE: 235.00170101
; CURRENT APPLICATION NUMBER: US/09/497,967
; PRIOR FILING DATE: 2000-02-04
; PRIOR APPLICATION NUMBER: 60/131,121
; PRIOR FILING DATE: 1999-04-27
; PRIOR APPLICATION NUMBER: 60/118,634
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/122,372
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 60/124,905
; PRIOR FILING DATE: 1999-03-17
; NUMBER OF SEQ ID NOS: 102
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 73
; LENGTH: 95
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:
; OTHER INFORMATION: oligonucleotide primers
US-09-497-967-73
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Query Match
Best Local Similarity 6.8%; Score 95; DB 18; Length 95;
Matches 95; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 242 CTCTGCTCAGCTAACCTGGTGATACCCAGTGTAACTGAAGTGTCTCTGCAACCGCTA 301
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Search completed: February 17, 2003, 01:35:57
Job time : 2271.72 secs